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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CHEN, WENPENG

ART UNIT	PAPER NUMBER
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2624

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/800,932	Applicant(s) WU ET AL.	
	Examiner Wenpeng Chen	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-8,10,12-17,19-21,23,25-28,30 and 32-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-8, 10, 12-17, 19-21, 23, 25-28, 30, 32-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/22/2008 has been entered.

Examiner's responses to Applicant's remark

2. Applicants' arguments filed on 1/22/2008 have been fully considered but they are not persuasive. The Examiner has thoroughly reviewed Applicants' arguments but firmly believes that the cited reference to reasonably and properly meet the claimed limitation.

- Applicants' argument -- Claim 1 requires a progressive order conversion parser to convert a codestream from progression order to another, without decoding the codestream, based on information derived from one or more of the markers embedded within the codestream, where the marker(s) also indicate one or more operations being formed on the codestream during the progression order conversion. Applicant submits that these features are not shown in Christopoulos and N1646. The present invention deals with a JPEG 2000 progression order conversion which converts from one of the JPEG 2000 progression orders to another. Christopoulos does not disclose any progression order conversions. However, there is no place in this section of N1646 cited by the Examiner that specifies a conversion from one compressive

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order to another without decoding the codestream. One could change progression orders by decoding a codestream and then re-encoding it and placing it in a different progression order. This is different than the present invention, which converts the codestream into a different progression order without decoding. Therefore, Applicant respectfully submits that the combination of Christopoulos and N1646 does not disclose converting a codestream from one progression order to another JPEG 2000 progression order without decoding the codestream.

Examiner's response -- The Examiner disagrees with the conclusion that the combination of Christopoulos and N1646 does not disclose converting a codestream from one progression order to another JPEG 2000 progression order without decoding the codestream.

The Examiner did not indicate that Christopoulos discloses progression order conversions. However, it does disclose that conversion between one bitstreams within a same format such as JPEG2000. Christopoulos teaches transcodes bitstream according to hints that can be resolution transcoding hint (paragraph 0040), image cropping transcoding hint (paragraph 0040), and the priority of the regions of interest hint (paragraphs 0041, 0042). In one example, bit plane of region of interest is placed before non-region-of-interest as a progressive coding. In paragraph 0042, Christopoulos teaches one can change a bitstream in JPEG2000 from one which region of interests are not of concern to one that wants to transmit bitstream of regions of interest first just by rearranging order of bitstream. This rearranging order of bitstream requires no decoding. In summary, Christopoulos teaches reordering bitstream without decoding in transcoding to meet the needs of a client.

The Examiner agrees that Christopoulos does not teach explicitly converting a codestream from one progression order to another JPEG 2000 progression order. N1646 teaches

a data structure which is designed for retrieving and editing data packets flexibly without decoding with various markers and headers as clearly pointed out is Section 6 "General description", page 8. Section B. 11 "Progression Order" outlines how the bitstream can be arranged in five kinds of progressive order.

With both information available to one of ordinary skill in the art, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to combine the teachings of Christopoulos patent publication and N1646 to provide multimedia data through web servers connecting to devices of various capabilities using standard specified in N1646, especially using Christopoulos' parser and N1646's progression order to convert from one format to another format without decoding.

The arguments with regard to Claims 5, 25, and 33 are moot, because as explained above the combination of Christopoulos and N1646 teaches the conversion of progressive orders without decoding. One does not rely on the features discussed by the Applicants to teach the conversion.

Claim Rejections - 35 USC § 101

3. Claim 19 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 19 recites an article of manufacture including instructions printed on papers or films as indicated in page 84. Algorithm instructions printed on papers are non-functional descriptive material because they cannot be read by a computer to perform functions directly without errors.

Claim Rejections - 35 USC § 103

4. Claims 1, 3-8, 10, 12-17, 19-21, 23, 25-28, 30, and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christopoulos et al. (US patent application publication 2001/0047517 cited previously, hereafter referred as Christopoulos patent publication or Christopoulos 517) in view of ISO/IEC JTC 1/SC 29/WG 1 N1646 ("JPEG 2000 Image coding system," ISO/IEC JTC 1/SC 29/WG 1. JPEG 2000, 16 March 2000 cited previously, hereafter referred as N1646).

Christopoulos patent publication teaches a system comprising:

-- a memory storing a compressed image as a codestream in a first format; (Christopoulos 517: paragraphs 0035-0036; Fig. 2 shows codestreams with various formats specified by hints.) (application 60/181,565: paragraph 1 in section 1.3; Application 60/181,565 is the provisional application of the present application, hereafter referred as application 565.)

-- a format conversion parser to convert the codestream from the first format to a second format different than the first format by reading the hints of the codestream to determine a current type of format, updating the hints to specify a target type of format and outputting packets of the codestream specified by the hints; (Christopoulos 517: paragraphs 0035-0038) (application 565: Fig. 1 in section 1.2; paragraphs 2-4 in page 9; section 1.4)

-- wherein the codestream is a JPEG 2000 codestream. (Christopoulos 517: paragraphs 0042-0043) (application 565: paragraph 1 in section 1.3)

Furthermore, Christopoulos patent publication teaches a transcoder between a server and a client. In the transcoding arrangement, a client can also serve as another server. (Christopoulos 517: sections 0020, 0035) (application 565: Fig. 1 in section 1.2; last paragraph in page 2; paragraph 3 in page 4; last paragraph in page 3; It teaches a situation that there are at least three services A, B, and C, each being able to perform transcoding. Assuming data are first transferred from A to B. B is then a client of A. B is then serves as a server during transferring data from B to C.) The transcoding is performed among two or more network elements. The server can be a web server. (Christopoulos 517: section 0012) (application 565: paragraph 1 in section 1.2) Christopoulos patent publication teaches the transcoder:

-- wherein the server, in response to receiving a request, performs the conversion and sends the codestream in the second format; (Christopoulos 517: sections 0036-0038) (application 565: paragraph 1 in section 1.3; paragraphs 2-4 in page 9)

-- wherein a memory is part of a server that serves the image in response to requests wherein the request is received in response to an activation by a client on a first image having the first format and wherein in response to the request, a second image having the second format is presented to the client. (Christopoulos 517: sections 0036-0038) (application 565: paragraph 1 in section 1.3; paragraphs 2-4 in page 9; The data are stored in a server. Therefore, the server has a memory.)

Although Christopoulos patent publication teaches that the hints are resolution and region of interest (ROI) (Christopoulos 517: paragraphs 0039-0041) (application 565: paragraph 2, page 9 to paragraph 5 in page 10) that are also used in JPEG2000 for parsing datastream,

Christopoulos patent publication does not explicitly teaches that the format is related to progressed order specified in JPEG2000.

N1646 teaches a JPEG2000 method and system (sections 6-8 in pages 8-11) comprising:

-- a memory storing a compressed image as a codestream in a first JPEG 2000 progression order; (Section 6 teaches storage of codestream. The system inherently has a memory. Section B.11, pages 67-70 teaches various progression orders associated with resolution, ROI and others.)

-- a progression order for specifying conversion of the codestream from the first JPEG 2000 progression order to a second JPEG 2000 progression order different than the first progression order, *without decoding the codestream*, by referring to one or more markers of the codestream to determine a current type of progression, *the one or more markers further indicating one or more data operations to be performed on the codestream during the progression order conversion*, updating the one or more markers to specify a target type of progression and rewriting packets of the codestream in an order conforming to the second progression order indicated by the updated one or more markers; (especially section B11.1, the COD markers; pages 15, 16, 17, 20; section A. 8.1, page 49; section 8.2, page 50; In these cited sections, N1646 teaches markers indicating a starting point and an ending point of data associated with the respective packet. These markers indicate how data of the codestream should be handled during the progression order conversion, for example, when to start and when to stop to include data in a packet of data.) (*The POD Marker segment is required if there are progressive order changes stated in pages 16 and 20. Also see the Examiner's response above.*)

-- wherein the conversion steps:

- determines where packets exist in the codestream based on at least one marker;
(sections B.11.1 in pages 68-69; The (l, r, I, k) are markers.)
- creates a structure specifying components in each packet; (Sections B.11.1 in pages 68-69 shows five structures.)
- orders packets in the codestream using the structure according to a specified; (sections B.11.1 in pages 68-69)
 - wherein the codestream is a JPEG 2000 codestream; (title in page 1)
 - wherein the progression order is performed using an array of packet structures, each of the packet structures corresponding to each layer of each tile in the codestream, and wherein the ordering is performed based on at least one of layer, resolution, component, and precinct progression information of the packet structures without having to decode and re-encode the codestream; (sections B.11.1 in pages 68-69)
 - wherein the marker further indicates how the data should be handled during the progression order conversion; (page 40, A.6.6)
 - wherein the marker indicates at least one of whether the data is to be deleted, truncated, and one or more additional operations that are to be performed on the data; (page 40 indicates marker values for defining end of progression for layer, resolution, and component. COC in pages 33-34 defines what to include and what not to include in the data stream. This selection is a kind of truncation and deletion.)
 - wherein the handling information is based on rate distortion information provided via one of a PLT/PPM and a PPT/PPM marker sets; (pages 45-48)

-- wherein a progression order comprises a layer-resolution-component-position progression (order 1) of JPEG 2000; (sections B.11.1 in pages 68-69)

-- wherein a progression order progression orders is one of the following groups of JPEG 2000 progression order: resolution-layer-component-position progression; resolution-position-component-layer progression; component-position-resolution-layer progression; and position-component-resolution-layer progression (orders 2-5, respectively). (sections B.11.1 in pages 68-69)

-- wherein progression order 2-5 is a progression order other than the layer progression order. (evidently above)

It is desirable to have a system to be compatible with an industrial standard to broaden its user base. It would have been obvious to one of ordinary skill in the art, at the time of the invention, to combine the teachings of Christopoulos patent publication and N1646 to provide multimedia data through web servers connecting to devices of various capabilities using standard specified in N1646, especially using Christopoulos' parser and N1646's progression order to convert from one format to another format, because the combination broadens user base of Christopoulos' system.

The combination thus teaches:

-- a memory storing a compressed image as a codestream in a first JPEG 2000 progression order;

-- a progression order conversion parser to convert the codestream from the first progression order to a second JPEG 2000 progression order different than the first progression order, without decoding the codestream, by referring to one or more markers of the codestream

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to determine a current type of progression, the one or more markers further indicating one or more data operations to be performed on the codestream during the progression order conversion, updating the one or more markers to specify a target type of progression and rewriting packets of the codestream in an order conforming to the second progression order indicated by the updated one or more markers;

-- wherein the parser:

- determines where packets exist in the codestream based on at least one marker;
- creates a structure specifying components in each packet;
- reorders packets in the codestream using the structure to map the first progression order

to the second progression order;

-- wherein the progression order conversion is performed using an array of packet structures, each of the packet structures corresponding to each layer of each tile in the codestream, and wherein the conversion is performed based on at least one of layer, resolution, component, and precinct progression information of the packet structures without having to decode and re-encode the codestream.

Furthermore in the combination, when data are transferred from a first network element to a second network element through an intermediate network element, the progression order can be changed from a first order of the first network element to an intermediate order of the intermediate network element and then to the second order of the second network element. The combination thus further teaches the recited features:

-- wherein the parser, in response to receiving a request, performs the conversion and sends the codestream in the second progression order;

-- wherein the memory is part of a server that serves the image in response to requests wherein the request is received in response to an activation by a client on a first image having the first progression order. and wherein in response to the request, a second image having the second progression order is presented to the client;

-- wherein the request includes a command specifying a target progression order as the second progression order;

-- wherein the intermediate progression order is a layer progression order and the second progression order is a target progression order other than the layer progression order.

The above passages also teach the corresponding methods of Claims 10, 12-17 and 28, 30, 32-34.

The above passages also teach the corresponding apparatus of Claim 20.

Christopoulos patent publication teaches a code conversion system having a transcoder with the converting algorithm. (Christopoulos 517: Fig. 1; The transcoder reformats multimedia data using hints. Inherently, the transcoder has a computer-readable memory carrying conversion algorithm. (sections 0037) Without a stored algorithm, the transcoder cannot perform the function of data conversion. Therefore, the combination also teaches the article of Claim 19.

However, the above combination of Christopoulos 517 and N1646 does not explicitly teach the newly-added limitation A "wherein the intermediate progression order is a layer progression order and the second progression order is a target progression order other than the layer progression order.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wenpeng Chen whose telephone number is 571-272-7431. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications and 571-273-8300 for After Final communications. TC 2600's customer service number is 571-272-2600.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

*/Wenpeng Chen/
Primary Examiner
Art Unit 2624*

March 19, 2008